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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,229	09/12/2005	Eva Maria Moser	05-350	2282

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EXAMINER	
KASHNIKOW, ERIK	

ART UNIT	PAPER NUMBER
1794	

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02/13/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/538,229	MOSER ET AL.	
	Examiner	Art Unit	
	ERIK KASHNIKOW	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 September 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 June 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *06/09/2005, 09/08/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "**said**," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 15 -29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claims 15 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite in that it fails to point out what is included or excluded by the claim language. This claim is an omnibus type claim. In particular claims 15 and 22 state that the plasma polymerized layer is in the nanometer range. However any distance measurement can be expressed in nanometers and therefore this claim fails to point out what is included or excluded by the claim language.

5. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 20 recites the broad limitation functional polar groups and the claim also cites the narrow limitation of hydroxyl-carbonyl-, carboxylic acid-, carboxyl ester, amine-, imine-, amide-, and/or conjugated nitrile groups.

6. Regarding claims 15 and 20, the phrase "and/or" renders the claim indefinite because it is unclear whether all three requirements have to be present or if any one of the three can be present.

7. Regarding claims 20 and 25, the phrase "preferably" renders the claim indefinite because it is unclear whether this requirement has to be present.

8. Claims 21 and 23 recites the limitation upper and lower layer in lines 4 and 5 of the claims. There is insufficient antecedent basis for this limitation in the claim. The claims upon which they depend mention zones but not layers.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claim 22 is rejected under 35 U.S.C. 102(b) as being anticipated by Ramesh et al (US 5,763,095).

11. Examiner points out that this claim is being treated as a product by process claim. For information regarding product by process claims see MPEP 2113.

12. Ramesh et al. teach a multilayer film which can have the layer composition of seal layer/nylon core/abuse layer (page 7 line 19).

13. Ramesh et al. teach that the seal layer be comprised of a polyolefins, preferably ethylene and propylene, which are hydrocarbons (column 6 lines21-25). Ramesh et al. teach that the abuse layer can be a copolymer of ethylene and an acrylic acid (column 6 lines 46-54). Ramesh et al. teach that the thickness is between 0.05 and 20 mils which converts to 1270 – 508,000 nm.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15. Claim 22-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramesh et al. (us 5,763,095) in view of Moser (W099/39842 with US 6,746,721 used as a translation) and applicants own disclosure.

16. As stated above Ramesh et al. teach a multilayer shrink film.

17. In regards to claims 22 and 23 while Ramesh et al. are silent regarding a 1-100 nm thickness of the film layer, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine prior art elements according to known methods to yield predictable results. In view of Applicant's own disclosure "plasma chambers with two plasma sources, as are used in their invention are known to persons skilled in the art". One of ordinary skill in the art would recognize that plasma polymerizations offer up thinner polymer layers. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the known method to yield a predictable result, in this case a thinner version of the invention of Ramesh et al. Further Ramesh et al. teach that the nylon polymer forms between 2-40% of the films thickness (column 7 lines 4-11).

18. In regards to claim 23 Moser et al. teach that plasma polymerization is specifically used to obtain specific thickness in the nm range (column 3 lines 36-43).

One of ordinary skill in the art at the time of the invention would be motivated to have thickness in the nm range for anti-fog effects, scratch protection and printability (column 3 lines 40-44).

19. In regards to claims 24 and 25 Ramesh et al. are silent regarding the nitrogen/carbon ratio of the core layer and the oxygen carbon ratio of the seal layer, however as all materials of Applicant's invention are taught by Ramesh et al. it would be obvious, and well with in the abilities of one of ordinary skill in the art at the time of the invention to chose a nitrogen containing lower layer that fits with in Applicant's range, as well as a material for the upper layer that fits with in the range specified by Applicant's.

20. In regards to claim 26 Ramesh et al. teach all the same materials as applicants, and also teach that at least one of the layers is heat sealable (claim 13). Heat sealing is also known as heat welding, and therefore Ramesh et al. teach a combination of materials that is same as applicants, and also teach the ability to heat weld. Therefore it would be obvious to one of ordinary skill in the art at the time of the invention that the invention of Ramesh et al. would also have the ability to weld to a polar layer.

21. In regards to claims 27-28 Ramesh et al. teach that the films can be used as a food packaging unit to protect against degradation (column 1 lines 25-27).

22. In regards to claim 29 Ramesh et al. teach that additional polymers can be mixed with the nylon layer to form an oxygen barrier (column 5 lines 1-15).

23. Claims 15, 16, 18, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moser (W099/39842 with US 6,746,721 used as a translation) in view of Chang (US 4,465,738) and applicant's own disclosure.

24. Moser et al. teach a method of coating substrates by polar polymerization (column 1 lines 6-13).

25. In regards to claims 15 and 18 Moser et al. teach the use of an inorganic gas component, such as oxygen, nitrogen and ammonia (column 3 lines 44-47), as well as the one hydrocarbon compound (column 2 lines 15-25).

26. In regards to claim 16 Moser et al teach a process pressure of $1.6*10^{-2}$ mbar (column 4 lines 11-12).

27. In regards to claim 20 Moser et al. teach that aliphatic and/or aromatic hydrocarbon compounds, preferably with functional groups such as amino groups added (column 3 line 45-column 4 line 4).

28. Moser et al. is however silent regarding the two zones of Applicant's invention.

29. Chang teaches a substrate with a multi layer plasma polymerized coating on top of it (column 1 lines 6-15).

30. In regards to claim 15 Chang teaches coating a first layer (or zone) with a hydrocarbon (column 1 lines 50-51) and that the coating for the second layer (zone) contains polar organic compounds, such as acrylic acid, or acryl amine (column 2 lines 27-37). Thus coating a substrate with 2 different zones.

31. In regards to claim 21 Applicant's state in their disclosure that "plasma chambers with two plasma sources, as are used here, are known to persons skilled in the art"

(instant application page 7 line 3), and therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use 2 plasma sources to apply the two different layers.

32. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Moser et al. with that of Chang because the method of Moser et al. which enables stable long term coating (claim 1) to the multilayer producing method of Chang which improves the wetability characteristics of the coated substrate (column 1 lines 6-8).

33. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moser (W099/39842 with US 6,746,721 used as a translation) in view of Chang (US 4,465,738) as applied to claim 15 above, and further in view of McLaughlin et al. (US 6,638,569).

34. As stated above Moser et al. and Chang teach a process for coating multiple zones of a substrate with different substances. However they are silent regarding the use of an additional silicon containing process gas.

35. McLaughlin et al. teach the addition of silicon based gas (column 3 lines 1-7) to gases that will be used in a plasma polymerization coating process (column 4 lines 1-5).

36. One of ordinary skill in the art at the time of the invention would be motivated to modify the inventions of Moser et al. and Chang with that of McLaughlin et al. because McLaughlin et al. provide thin films with good yields of adhesion and good uniformity to the coated substrates produced by Moser et al. and Chang as discussed above.

37. Claim17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moser (W099/39842 with US 6,746,721 used as a translation) in view of Chang (US 4,465,738) in further view of Badyal et al. (WO98/58117).

38. As stated above Moser et al. and Chang teach a process for using plasma polymerization to form a multilayer coating on a hydrocarbon substrate. However they are silent regarding pressures between 0.1 to 500 mbar.

39. Badyal et al. teach coating of surfaces (page 1 line 3) using plasma polymerization (page 3 lines 31-34).

40. Badyal et al. teach that pressures between 0.1-10 mbar are common pressures used in plasma polymerization.

41. One of ordinary skill in the art at the time of the invention would be motivated to modify the inventions of Moser et al. and Chang with that of Badyal et al. because Badyal et al. adds good oil and water repellant surfaces to the coated surfaces of Moser et al. and Chang as discussed above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIK KASHNIKOW whose telephone number is (571)270-3475. The examiner can normally be reached on Monday-Friday 7:30-5:00PM EST (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571) 272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Erik Kashnikow
Examiner
Art Unit 1794

/Callie E. Shosho/

Supervisory Patent Examiner, Art Unit 1794